

Notice of Allowability**Application No.**

09/404,245

Examiner

Jenna-Leigh Befumo

Applicant(s)

HARRIS ET AL.

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed April 30, 2004.
2. ☒ The allowed claim(s) is/are 16-21,23-25,27,30-33,48-59,64,67,68,71-83,86,89,92,93,95 and 96.
3. ☒ The drawings filed on 21 September 1999 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

Art Unit: 1771

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Chris Humphrey on July 23, 2004.

The application has been amended as follows:

Please Cancel claims 90, 91, and 94

In claim 17, the last line, after fiber, insert --wherein the multicomponent fiber is drawn without heat--

In claim 30, the last line, after fiber, insert --wherein the multicomponent fiber is drawn without heat--

Amend Claim 48 as follows:

A drawn splittable multicomponent fiber comprising: at least one component comprising an elastomeric polymer, at least a portion of which is exposed to the outer peripheral surface of said fiber, which is elastically deformed and lengthened during drawing so that said elastomeric component contracts to substantially its original undrawn length when the multicomponent fiber is split; and

at least one component comprising a non-elastomeric polymer, at least a portion of which is exposed to the outer peripheral surface of said fiber which is plastically deformed and lengthened during drawing so that said non-elastomeric component

Art Unit: 1771

maintains substantially its same drawn length upon release of drawing tension and bulks when the multicomponent fiber is split,

wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal treatment and said elastomeric and non-elastomeric polymer components are arranged in distinct unocclusive cross-sectional segments so that the polymer components are not physically impeded from being separated from one another.

Amend Claim 59 as follows:

A fabric comprising a plurality of drawn splittable multicomponent fibers comprising at least one component comprising a non-elastomeric polymer and at least one component comprising an elastomeric polymer,

wherein at least a portion of each of said non-elastomeric and elastomeric polymer components is exposed to the outer peripheral surface of said fiber,

wherein said at least one polymer component comprising a non-elastomeric polymer is plastically deformed and lengthened during drawing so that said non-elastomeric component maintains substantially its same drawn length upon release of drawing tension and bulks when the multicomponent fiber is split,

wherein said at least one polymer component comprising an elastomeric polymer is elastically deformed and lengthened during drawing so that said elastomeric component contracts to substantially its original undrawn length when the multicomponent fiber is split; and

wherein said elastomeric polymer has a solubility parameter (δ) sufficiently different from said non-elastomeric polymer so that said elastomeric component and said non-elastomeric component split upon thermal treatment and said elastomeric and non-elastomeric polymer components are arranged in distinct unocclusive cross-sectional segments so that the polymer components are not physically impeded from being separated from one another.

In claim 64, the last line, after fiber, insert --wherein the multicomponent fiber is drawn without heat--

2. The following is an examiner's statement of reasons for allowance:
3. The Amendment submitted on April 30, 2004, has been entered. Claims 1 – 15, 22, 26, 28, 29, 34 – 47, 60 – 63, 65, 66, 69, 70, 84, 85, 87, and 88 have been cancelled. Claim 27 has been amended and claims 90 – 96 have been added. Therefore, the pending claims are 16 – 21, 23 – 25, 27, 30 – 33, 48 – 59, 64, 67, 68, 71 – 83, 86, and 89 – 96.
4. The amendment to claim 27 is sufficient to overcome the objection to the claims set forth in the previous Office Action.
5. The examiner's amendment is sufficient to overcome the prior art since the multicomponent fiber and the fiber bundles taught by Gillespie et al. (5,783,503) and Makimura et al. (4,663,221) do not teach drawing the fiber without heat or drawing the fiber to produce two different length fibers, the elastomeric components being shorter than the non-elastomeric components in the fiber bundle after the multicomponent fiber is split.
6. Claims 16 – 21, 23 – 25, 27, 30 – 33, 48 – 59, 64, 67, 68, 71 – 83, 86, 89, 92, 93, 95, and 96 are allowed.

Art Unit: 1771

7. The prior art fails to teach or fairly suggest producing a multicomponent fiber with an elastomeric and non-elastomeric component by drawing the fiber without heat during processing. While the prior art does teach producing multicomponent fibers and fiber bundles with an elastomeric and non-elastomeric component, such as Gillespie et al. and Makimura et al. these fibers are drawn under heated conditions. Therefore, the crystal structure in both the elastomeric and non-elastomeric components when drawn with heat will be physically altered and reoriented during drawing, so that the length of both types of components in their relaxed state would be increased. However, when the multicomponent fiber is drawn without heat, the elastomeric component is stretched to a longer length, but the crystal structure of the elastomeric component is not physically altered. Hence, when the tension is released from the elastomeric component it will relax to the same length it had prior to drawing. While the crystalline structure of the non-elastomeric component is physically altered during drawing, even without heat, and will therefore, maintain the drawn length after the tension is released from the component. An updated search revealed no new art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna-Leigh Befumo whose telephone number is (571) 272-1472. The examiner can normally be reached on Monday - Friday (8:00 - 5:30).

Art Unit: 1771

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jenna-Leigh Befumo
July 24, 2004



CHERYL A. JOSKA
PRIMARY EXAMINER